Types of System Calls

Since a user needs to access many resources, the type of System calls depends on the use of these resources.

Basically there are five broad categories of System calls:-

(1) PROCESS CONTROL System calls

A process- a basic entity in the System. The processes in the System need to be created, deleted and aborted. Besides these many operations are required on the processes for their management. There are some example

fork () :- Create a process

exit () :- Terminate a process

kill() :- Terminate a process abnormally

Nice() :- Increase a priority of a process

(2) FILE MANAGEMENT System Calls :- Creation, deletion, Opening, closing, reading and writing are some general operations on files. Similarly for Organizing files, there is a directory System and thereby System calls for managing them

Create() To create a new file

Open() To open a file

Close() To close a file

Read() To Read a file

Write() To Write a file

LSeek()   Change the position of the read-write pointer

Link()   Give another name to a file.

Unlink()   Delete a file in a directory

Mkdir()   Create a new directory.

3) <u>Device Management SystemCalls</u>:- The general commands are ① Request of device ② Release of device ③ Read & Write operation and so on.

4) <u>Information Maintenance System Calls</u>:-

Many System Calls exist simply for the purpose of transferring information between the users program and the OS.

like → return current time and date
→ no. of Current users
→ the various Version no. of o/s
→ Amount of free memory.

get time()	set date()	get process()
get date()	get System data()	set process()
set time()	Set System data()	get file() and so on.

5) <u>Communications System Calls</u>:- There is a need for communication among the processes in the system.

General operations are

→ Opening and closing the connection

→ Sending & Receiving messages

→ Reading & writing messages. and so on...

Msgsnd ( )   Sending a message

Msgrsv ( )   Receiving a message

These System Calls may be related to the communication between processes either on the same machine or between processes on different nodes of a network. Thus, inter-process communication is provided by the OS through these Communication-related System Calls.

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